BIOLOGICAL EVALUATION

Mountain Pine Beetle Infestation

Kamas Ranger District
Wasatch National Forest

1973

INTRODUCTION

In response to a request for assistance, entomologists Lawrence Stipe and Douglas Parker evaluated a mountain pine beetle outbreak along the scenic highway between Kamas, Utah, and Mirror Lake. District and Supervisor Office personnel were concerned about the visual impact of concentrations of dead trees, the possible loss of high value trees in campgrounds, and the loss of the timber resource. The evaluation was conducted on September 5 and 6, 1973.

GENERAL INFORMATION

INSECT: Mountain pine beetle, Dendroctonus ponderosae Hopkins (Coleoptera:Scolytidae).

HOST TREES: Lodgepole pine, Pinus controta Engelm. and P. ponderosa Laws.

LOCATION: Kamas Ranger District, Wasatch National Forest.

TYPE OF DAMAGE: The beetle is killing mostly lodgepole pine, but a few ponderosa pine are being killed.

EXTENT OF INFESTATION: Tree mortality was observed from the Yellow Pine Campground area up the highway to the Provo River Falls overlook. A map showing the distribution of the outbreak is appended.

BIOLOGICAL INFORMATION

During the 1950's, a large mountain pine beetle outbreak occurred on the Wasatch National Forest and many trees were killed in Beaver Creek and along the Provo River. The outbreak in these two drainages declined to a low level in the early 1960's, but an increase was detected in 1966. The infestation increased slightly in 1967 and 1968, but in 1969 a large buildup occurred. The rate of tree killing fluctuated slightly from 1970 to 1973 but tree losses remained at a relatively high level.

DISCUSSION

Attack ratios collected in September indicate that tree losses have increased in some lodgepole pine stands, while losses in other stands have decreased slightly (Table 1, Appendix). Overall losses were at about the same level as in 1972. Tree mortality was especially heavy in and around the Pine Valley Campground. Elsewhere, most of the susceptible trees already had been killed and few additional trees were attacked.

For the most part, the remaining lodgepole stands are composed of smaller diameter trees that will not favor further beetle population increases; therefore, the outbreak should start declining in these drainages in 1974.

Ponderosa pine losses should remain at a low level.

RECOMMENDATIONS

Overall control of this outbreak is not practical at this time. The extent of the outbreak, the accumulated losses, and the extreme cost of individual tree treatment exclude chemical suppression as a practical alternative.

Salvage logging is the best approach to this problem. Removal of infested trees will have no appreciable effect on the beetle population, but the timber resource will be utilized instead of being lost. Logging should be undertaken in areas of greatest hazard; i.e., in stands containing the largest diameter lodgepole pine.

Further, it would be beneficial to salvage currently infested trees in and around campgrounds before July, 1974.

Removal of these trees will reduce the beetle population in the campground vicinity and lessen the possibility of additional trees being killed. These trees will have to be removed at a later date because of the hazard they present to campground visitors and installations.

Losses in areas having high esthetic and recreation values, where logging is not feasible, will have to be accepted as inevitable. These stands cannot be preserved in their present state.

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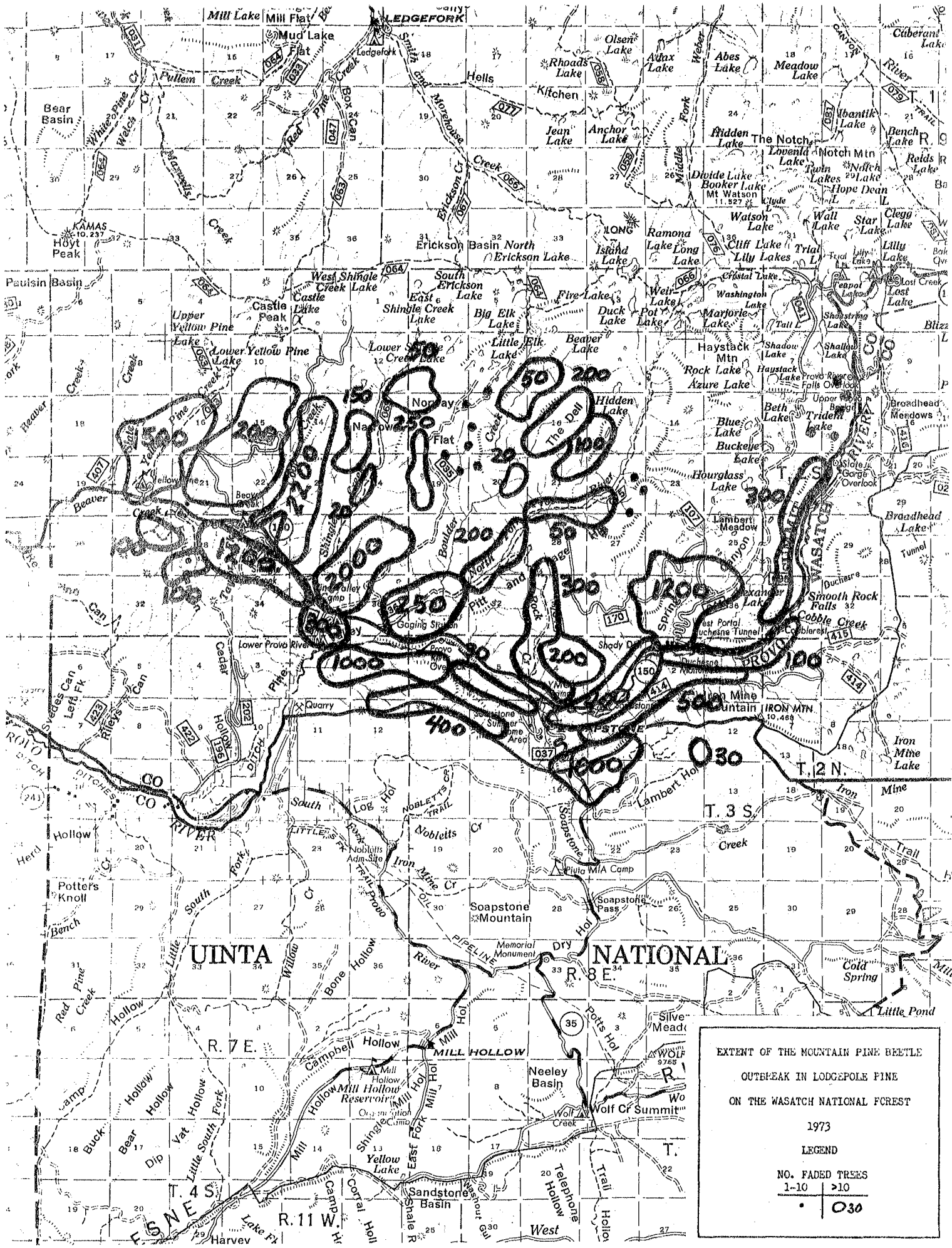
EXTENT OF THE MOUNTAIN PINE BEETLE
OUTBREAK IN LODGEPOLE PINE
ON THE WASATCH NATIONAL FOREST
1973
LEGEND
NO. FADED TREES
1-10 | >10
O30
LEDGEFORK
Mill Lake
Mill Flat
Mud Lake
Flat
Ledgefork
Pullem Creek
Hells
Kitchen
Rhoads Lake
Olsen Lake
Atlax Lake
Abes Lake
Meadow Lake
Canyon River
Bear Basin
White Pine Cr
Welch Cr
Red Pine
Box Can
Smith and Morehouse Creek
Jean Lake
Anchor Lake
Middle Fork
Hidden Lake
The Notch
Notch Mtn
Loverld Lake
Twin Lakes
Notch Lake
Ibantik Lake
Bench Lake
Reids Lake
Divide Lake
Booker Lake
Mt Watson
11,527
Clyde L
Hope Dean L
Erickson Cr
Erickson Basin North
Erickson Lake
KAMAS
10,237
Hoyt Peak
Watson Lake
Wall Lake
Star Lake
Clegg Lake
Ramona Lake
Long Lake
Cliff Lake
Lilly Lakes
Trial L
Lilly Lake
Paulsin Basin
West Shingle Creek Lake
South Erickson Lake
East Shingle Creek Lake
Castle Peak
Upper Yellow Pine Lake
Lower Yellow Pine Lake
Big Elk Lake
Little Elk Lake
Fire Lake
Duck Pot Lake
Crystal Lake
Washington Lake
Marjorie Lake
Teapot Lake
Lost Creek
Lost Lake
Haystack Mtn
Rock Lake
Azure Lake
Haystack Lake
Provo River Falls Overlook
Shadow Lake
Shallow Lake
Shadestring Lake
Beaver Lake
Norway Flat
Narrow
Hidden Lake
The Dell
Blue Lake
Buckeye Lake
Beth Lake
Tridell Lake
Broadhead Meadows
Broadhead Lake
Slate Gorge Overlook
Hourglass Lake
Lambert Meadow
Lambert Canyon
WASATCH FAULT
Smooth Rock Falls
Cobble Creek
Cobblerest
Tunnel
Duchesne Tunnel
Alexander Lake
Spring
Shady Dell
Provo River Overlook
Gaging Station
Lower Provo River
Soapstone Summer Home Area
Quarry
Iron Mine
IRON MTN
10,466
Iron Mine Lake
Cedar Pine
Hollow
Ditch
Sweetes Can
Left Fk
Rileys Can
Herd Hollow
Potters Knoll
Bench
Soapstone Mountain
Soapstone Pass
Nobletts Cr
Nobletts Trail
Nobletts Adm Site
Iron Mine Cr
Log Hol
Lambert Hol
Soapstone
Creek
Trail
Cold Spring
Little Pond
Memorial Monument
Dry Hol
Pipeline
Willow Creek
Bone Hollow
Red Pine Hollow
Little Fork
South Fork
Campbell Hollow
Mill Hollow
Mill Hollow Reservoir
Mill Hollow Recreation Camp
Neeley Basin
Wolf Cr Summit
Wolf Creek
Potts Hol
Silver Meadows
Shingle Creek
East Fork Mill Hol
Yellow Lake
Sandstone Basin
Telephone Hollow
Trail
Corral Hol
Shale Ridge
Lake Fk
Harvey
West
Buck
Bear
Dip
Vat
Little South Fork
Camp
Hollow
UINTA
NATIONAL
R. 7 E.
R. 8 E.
R. 11 W.
T. 1
T. 2 N.
T. 3 S.
T. 4 S.
T. 5
CO
RIVER
PROVO
RIVER
DITCH
TRAIL
PIPELINE
Nobletts Cr
Soapstone
Iron Mine Cr
Lambert Hol
Dry Hol
Mill Hol
Potts Hol
Log Hol
Pine Cr
Box Can
Red Pine
Smith and Morehouse Creek
Erickson Cr
Weber
Canyon River
Middle Fork
Provo River
Beaver Creek
Shingle Creek
Boulder Creek
North Fork
Pitt and Rock Creek
Spring Creek
Cedar Pine Hollow

Table 1. Mountain pine beetle trend data collected on September 5 and 6, 1973, Kamas Ranger District, Wasatch National Forest.

Sample Locations	Number of Trees Observed Attacked In 1973	1972	Attack Ratio 1973	1972	Trend
Yellow Pine Campground	29	14	2	1	Increasing
Pine Valley Campground	140	27	5	1	Increasing
Coop Creek	16	36	0.4	1	Decreasing
Soapstone Road	55	67	0.8	1	Decreasing